

# Recovery Plan Action Status

Plan Name: Large-fruited Sand Verbena

Plan Status: Final

Plan Date: 30-Sep-92

Lead Agency: USFWS

Lead Office: Austin Ecological Services Field Office

(512)  
490-0057 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Large-fruited sand-verbena (Abronia macrocarpa)	1	111	Establish protected sites by appropriate mechanism	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	ES costs: FY1=5K, FY2=10K, FY3=3K. Year 4 & 5 also 3 thousand
Large-fruited sand-verbena (Abronia macrocarpa)	1	112	Work with landowners to establish short-term management practices	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, The Nature Conservancy, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	landowner liaison for TNC. ES costs: FY1=5K, FY2=3K. TPWD costs: FY1=1K, FY2=0.5K.
Large-fruited sand-verbena (Abronia macrocarpa)	2	113	Develop & implement long-term management plans	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, Soil Conservation Service , USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	technical assistance/landowner liaison. ES costs: FY1=10K, FY2&3=5K. TPWD costs: FY1,2,&3=1K. SCS costs: FY1,2,&3.
Large-fruited sand-verbena (Abronia macrocarpa)	1	12	Enforce Federal & State Laws	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, U.S. Fish and Wildlife Service, Law Enforcement Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	ES costs: 2K/year for FY1,2,&3. LE costs: 1K/year for FY1,2,&3. TPWD costs: 2K/year for FY1,2,&3.

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Large-fruited sand-verbena (Abronia macrocarpa)	2	13	Monitor wild populations	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	necessary to 113, 14, 51, 52, 53 & 6. helpful to task 3. ES costs: FY1,2,&3=5K. TPWD costs: FY1,2,&3=5K.
Large-fruited sand-verbena (Abronia macrocarpa)	2	14	Asses & revise management plans regularly	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Every other year during the first few years. ES costs: FY2=3K. TPWD costs: FY2=0.75K.
Large-fruited sand-verbena (Abronia macrocarpa)	1	21	Establish & maintain a cultivated population and seed bank w/maximum genetic diversity	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Soil Conservation Service , USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 111, 52, 62 technical assistance (SCS). All costs for ES.
Large-fruited sand-verbena (Abronia macrocarpa)	2	22	Establish a cultivation collection monitoring and management plan	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 21. ES costs: FY1=1K, FY2&3=0.5K. TPWD costs: FY1=0.5K, FY2&3=0.25.
Large-fruited sand-verbena (Abronia macrocarpa)	2	23	Coordinate cultivation program with research efforts providing support and incorporating results	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 21. Helpful to 331, 332, 333, 334, 3212. ES costs: FY1,2,&3=0.5K. TPWD costs: FY1,2,&3=0.25K.
Large-fruited sand-verbena (Abronia macrocarpa)	2	3111	Study geology and dynamic process	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 41, 42, 51, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	3112	Study soils-classification and growth parameters	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Soil Conservation Service , USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 41, 42, 51, 52, and 62. Soils classification & assessment of potential habitat available. ES costs: FY1=1K, FY2=0.5K. SCS costs: FY1=1K, FY2=0.5K.

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Large-fruited sand-verbena (Abronia macrocarpa)	2	3113	Study microclimate	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	May be less expensive if conducted in cooperation with other studies. Necessary to 113, 41, 42, 51, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	312	Community structure: Study diagnostic/associated species	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 41, 42, 51, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	1	3131	Determine necessary natural phenomena in the community	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to tasks 113, 41, 42, 52, and 62. Year 4 & 5 also three thousand
Large-fruited sand-verbena (Abronia macrocarpa)	1	3132	Determine seral stage of community	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to tasks 113, 41, 42, 52, and 62.
Large-fruited sand-verbena (Abronia macrocarpa)	1	3133	Determine response to disturbance, agricultural practices, & other land uses	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to tasks 113, 41, 42, 52, and 62. Year 4 & 5 also three thousand
Large-fruited sand-verbena (Abronia macrocarpa)	1	3134	Determine species interaction	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 52, 62. Year 4 & 5 also three thousand
Large-fruited sand-verbena (Abronia macrocarpa)	1	3211	Assess demographic conditions and needs	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	necessary to 113, 52, 62, and 8
Large-fruited sand-verbena (Abronia macrocarpa)	2	3212	Assess genetic viability	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 52, and 62; Dr. Paula Williamson published in Am. J. of Bot. in 1999.
Large-fruited sand-verbena (Abronia macrocarpa)	2	322	Characterize phenology	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 52, and 62

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Large-fruited sand-verbena (Abronia macrocarpa)	2	3231	Determine types of reproduction	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 52, and 62; Dr. Paula Williamson published in SW J. of Naturalists, 1997.
Large-fruited sand-verbena (Abronia macrocarpa)	2	3232	Study pollination biology	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	3233	Study seed production & dispersal	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 52, and 62. Helpful to 41 and 42
Large-fruited sand-verbena (Abronia macrocarpa)	2	3234	Study seedling recruitment	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Years 4 & 5 also one thousand. necessary to 113, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	331	Study seed biology (viability, longevity, etc)	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 21, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	332	Study germination requirements	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 21, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	333	Study seedling biology	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 113, 21, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	2	334	Study propagation techniques	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Necessary to 21, 52, and 62
Large-fruited sand-verbena (Abronia macrocarpa)	1	41	Search potential habitat for new populations	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Department of Agriculture, Texas Parks and Wildlife Department, Soil Conservation Service , USFWS Regional Office 2, County Agricultural Extension Service	Work type not yet selected	Labor type not yet selected	necessary to 111. SCS, COEX, TDA liaison to landowners. See paragraph 2 of task 41. ES costs: 5K/year. TPWD costs: FY1=2K, FY2&3=1K; SCS,CoEX,TDA costs: FY1=0.5K.

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Large-fruited sand-verbena (Abronia macrocarpa)	2	42	Search potential habitat for potential restoration sites	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	May reduce cost if able to do synchronously with 41. Needed for 52, 53, and 62. ES costs: FY1&2=5K, FY3=2K. TPWD costs: FY1&2=2K, FY3=1K.
Large-fruited sand-verbena (Abronia macrocarpa)	2	51	Assess reintroduction techniques	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	
Large-fruited sand-verbena (Abronia macrocarpa)	2	52	Establish pilot reintroduction program, if feasible	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Depends on study results and outcome of task 5.1
Large-fruited sand-verbena (Abronia macrocarpa)	3	53	Assess feasibility of reintroduction program	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Depends on pilot results
Large-fruited sand-verbena (Abronia macrocarpa)	3	62	Develop a reintroduction program	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	Depends on assessment of feasibility
Large-fruited sand-verbena (Abronia macrocarpa)	2	7	Develop public concern & support	Unknown			U.S. Fish and Wildlife Service, Ecological Services Division, Texas Parks and Wildlife Department, USFWS Regional Office 2	Work type not yet selected	Labor type not yet selected	ES costs: FY1=4K, FY2&3=2K. TPWD costs: FY1=1K, FY2&3=0.5K.
Large-fruited sand-verbena (Abronia macrocarpa)	1	999	Delete	Not Started				Work type not yet selected	Labor type not yet selected	
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Large-fruited sand-verbena (Abronia macrocarpa)	2	999	Delete	Not Started				Work type not yet selected	Labor type not yet selected	
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Large-fruited sand-verbena (Abronia macrocarpa)	3	999	Delete	Not Started				Work type not yet selected	Labor type not yet selected	